Florida

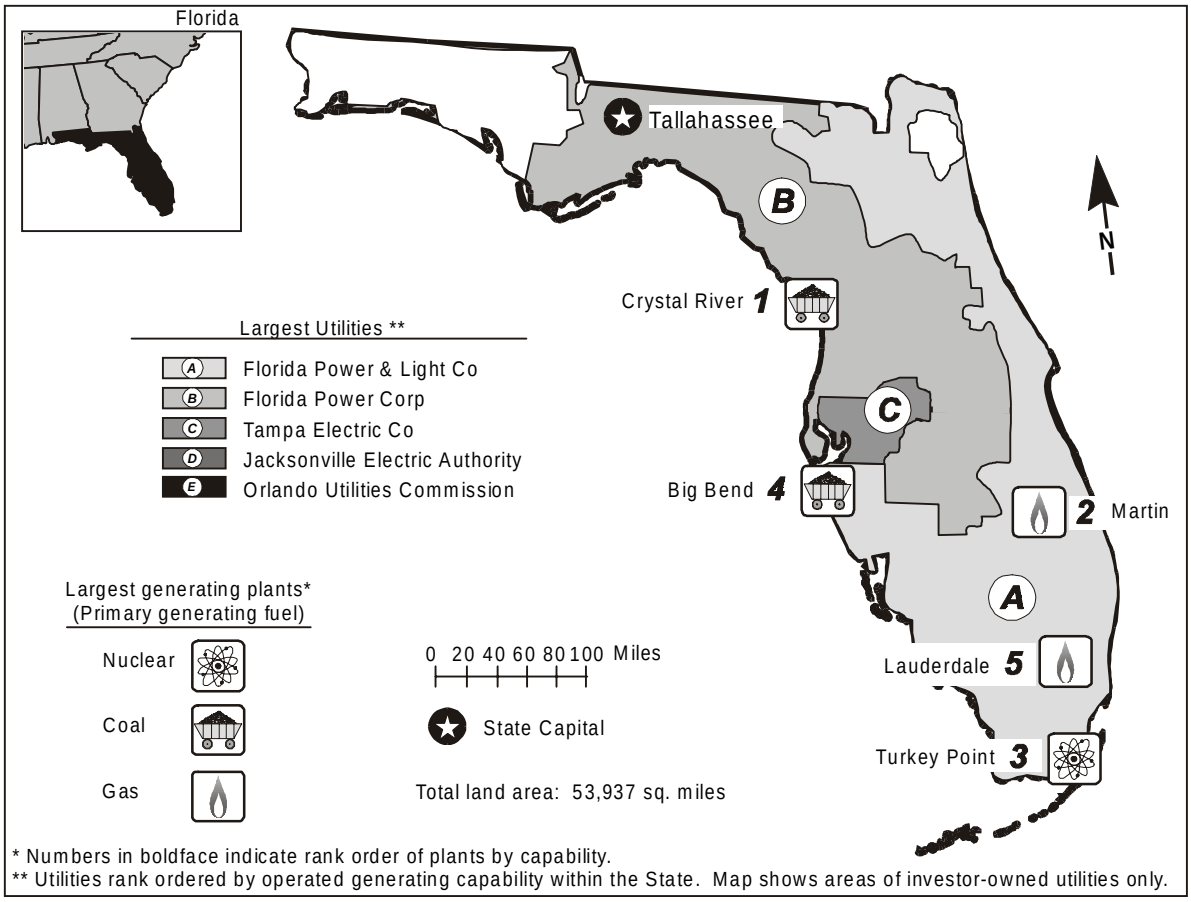
Florida had the fourth largest population and the third largest utility generating capability in 1996. The largest portion of electricity generated in Florida comes from coal-fired plants. Florida is also very reliant on nuclear power and power from oil-fired and gas-fired plants. Two of the three largest plants in the State, Crystal River and Turkey Point, have nuclear generating capability. The largest utility in the State is the Florida Power and Light Company, which operates three of the State's five largest plants. Florida has an insignificant amount of hydropower capability and generation. The average price of electricity, 7.18 cents per kilowatthour, was sixteenth most expensive in the Nation. Florida is a net importer of electricity although it is a long peninsula with significant population centers at the southern end, making importing opportunities limited.

The Clean Air Act Amendments of 1990 specified a number of utility plants to begin compliance with stricter emissions standards for sulfur dioxide (SO_2) and nitrogen oxides (NO_x) in 1995. These plants included 2,286 megawatts of nameplate capacity at Gulf Power's Crist plant and the Tampa Electric Company's Big Bend plant. Emissions of SO_2 from Florida electric power generation rose from 1986 to 1991, but declined from 1991 to 1996. Both emissions of NO_x and carbon dioxide (CO_2), however, increased over both periods. Florida's SO_2, NO_x, and CO_2 emissions were all among the top 7 nationally in 1996. Its concentration rankings were all also high, among the top 11. Although Florida participated in the Ozone Transport Assessment Group process like all the other States east of the Rocky Mountains, Florida generators are not subject to the recently announced proposal from the Environmental Protection Agency (EPA) requiring submission of State implementation plans to address the regional transport of ground-level ozone. However, Florida fossil-fuel fired units will be subject to emissions reductions requirements of Phase II of EPA's Acid Rain Program, which takes effect on January 1, 2000.

Florida Power's Crystal River, a nuclear and coal facility, the largest in the State, is on the Gulf Coast north of Tampa. The three Florida Power and Light plants mentioned earlier are all in South Florida on the Atlantic coast. Two, Lauderdale and Martin, are primarily gas units, while Turkey Point is a nuclear plant. The Tampa Electric Company operates Florida's fourth largest plant, Big Bend, a coal plant. In 1986, Florida's utility coal plants represented over a quarter of Florida's generating capability and over a third of its net generation. In 1996, the coal share of capability declined slightly while the net generation share rose slightly. Utility nuclear capability and generation as shares of the State's totals both declined over the same period. Utility oil capability and net generation, on the other hand, were just over a third and just under a quarter, respectively, in 1986. By 1996, the capability share had fallen slightly while the generation share declined to just over one-eighth. Nonutility generation as a percentage of the State total more than doubled from 1986 to 1996, rising from 5.0 percent to 13.2 percent.

Florida has not done much to restructure its electric power industry. The most recent deregulation bill died in committee in April 1998 without a hearing, reflecting both the strong opposition from utilities and lack of consumer interest.[1]

[1] Energy Information Administration, Status of State Electric Utility Deregulation Activity, http://www.eia.doe.gov/cneaf/electricity/chg_str/tab5rev.html.



* Numbers in boldface indicate rank order of plants by capability.
** Utilities rank ordered by operated generating capability within the State. Map shows areas of investor-owned utilities only.

Table 1. 1996 Summary Statistics

Item	Value	U.S. Rank
NERC Region(s)		FRCC/SERC
Net Exporter or Importer		Importer
State Primary Generating Fuel		Coal
Population (as of 7/96)	14,418,917	4
Average Revenue (cents/kWh)	7.18	[a]36
Industry		
Capability (MWe)	40,774	[b]3
Generation (MWh)	167,122,728	[b]4
Capability/person (KWe/person)	2.83	[b]26
Generation/person (MWh/person)	11.59	[b]29
Sulfur Dioxide Emissions (Thousand Short Tons)	667	7
Nitrogen Oxide Emissions (Thousand Short Tons)	365	6
Carbon Dioxide Emissions (Thousand Short Tons)	123,444	5
Sulfur Dioxide/sq. mile (Tons)	12.36	11
Nitrogen Oxides/sq. mile (Tons)	6.76	11
Carbon Dioxide/sq. mile (Tons)	2,288.67	11

Item	Value	U.S. Rank
Utility		
Capability (MWe)	36,898	3
Generation (MWh)	145,140,217	3
Average Age of Coal Plants	18 years	
Average Age of Oil-fired Plants	25 years	
Average Age of Gas-fired Plants	18 years	
Average Age of Nuclear Plants	20 years	
Average Age of Hydroelectric Plants	31 years	
Average Age of Other Plants	--	
Nonutility[c]		
Capability (MWe)	3,876	4
Percentage Share of Capability	9.5	15
Generation (MWh)	21,982,511	4
Percentage Share of Generation	13.2	16

-- = Not applicable.

Table 2. Five Largest Utility Plants, 1996

Plant Name	Type	Operating Utility	Net Capability (MWe)
1. Crystal River	Coal/Nuclear	Florida Power Corp	3,039
2. Martin	Other/Gas	Florida Power & Light Co	2,482
3. Turkey Point	Nuclear/Oil	Florida Power & Light Co	2,210
4. Big Bend	Coal	Tampa Electric Co	1,856
5. Lauderdale	Gas/Other	Florida Power & Light Co	1,736

Table 3. Top Five Utilities with Largest Generating Capability, and Type, Within the State, 1996
(Megawatts Electric)

Utility	Net Summer Capability	Net Coal Capability	Net Oil Capability	Net Gas Capability	Net Nuclear Capability	Net Hydro/Other Capability
A. Florida Power & Light Co	15,611	--	7,178	5,369	3,064	--
B. Florida Power Corp	7,323	2,227	4,029	255	812	--
C. Tampa Electric Co	3,545	3,132	399	14	--	--
D. Jacksonville Electric Auth	3,088	1,248	1,840	--	--	--
E. Orlando Utilities Comm	1,780	882	--	898	--	--
Total	31,347	7,489	13,446	6,536	3,876	--
Percentage of Industry Capability	76.9	--	--	--	--	--

-- = Not applicable.

Figure 1. Utility Generating Capability by Primary Energy Source, 1996

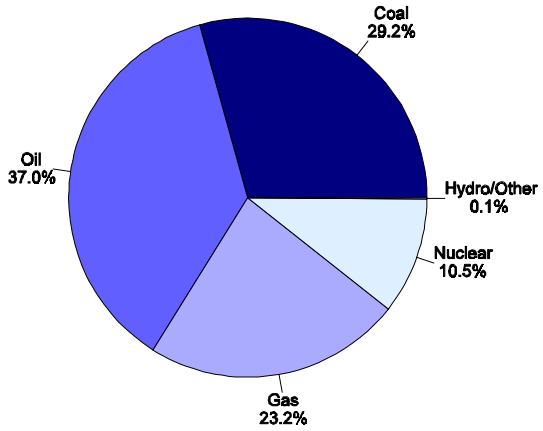


Figure 2. Utility Generation by Primary Energy Source, 1996

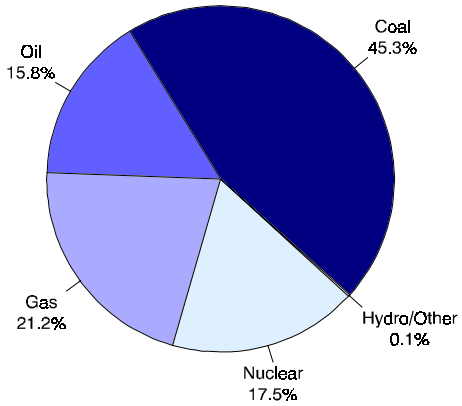


Figure 3. Energy Consumed at Electric Utilities by Primary Energy Source, 1996

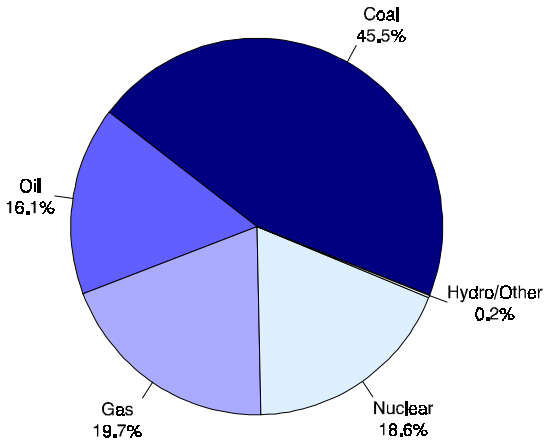


Table 4. Electric Power Industry Generating Capability by Primary Energy Source, 1986, 1991, and 1996
(Megawatts Electric)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	8,875	10,001	10,763	27.4	29.2	26.4
Oil	11,472	11,171	13,653	35.4	32.6	33.5
Gas	7,163	7,658	8,560	22.1	22.3	21.0
Nuclear	3,798	3,830	3,876	11.7	11.2	9.5
Hydro/Other	45	48	47	0.1	0.1	0.1
Total Utility	31,353	32,708	36,898	96.9	95.4	90.5
Total Nonutility	1,013	1,587	3,876	3.1	4.6	9.5
Industry	32,366	34,295	40,774	100.0	100.0	100.0

Table 5. Electric Power Industry Generation of Electricity by Primary Energy Source, 1986, 1991, and 1996
(Thousand Kilowatthours)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	42,632,445	61,122,819	65,782,399	37.3	43.9	39.4
Oil	27,415,899	30,115,618	22,890,565	24.0	21.6	13.7
Gas	16,167,993	18,734,892	30,781,402	14.2	13.4	18.4
Nuclear	22,036,001	20,507,569	25,470,291	19.3	14.7	15.2
Hydro/Other	212,294	263,066	215,560	0.2	0.2	0.1
Total Utility	108,464,632	130,743,964	145,140,217	95.0	93.9	86.8
Total Nonutility	5,725,549	8,563,613	21,982,511	5.0	6.1	13.2
Industry	114,190,181	139,307,577	167,122,728	100.0	100.0	100.0

Table 6. Electric Power Industry Consumption by Primary Energy Source, 1986, 1991, and 1996
(Quadrillion Btu)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	0.440	0.615	0.662	35.2	38.4	36.4
Oil	0.281	0.307	0.234	22.5	19.2	12.9
Gas	0.172	0.204	0.286	13.7	12.8	15.7
Nuclear	0.238	0.220	0.271	19.0	13.8	14.9
Hydro/Other	0.002	0.003	0.002	0.2	0.2	0.1
Total Utility	1.133	1.348	1.454	90.7	84.3	80.0
Total Nonutility	0.117	0.252	0.363	9.3	15.7	20.0
Industry	1.249	1.600	1.817	100.0	100.0	100.0

Figure 4. Utility Generation of Electricity by Primary Energy Source, 1986-1996

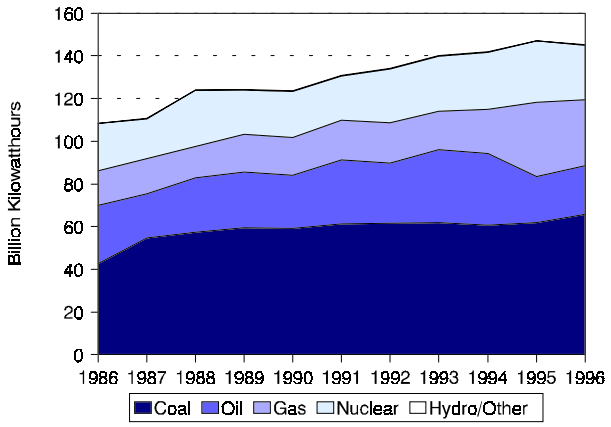


Figure 5. Utility Delivered Fuel Prices for Coal, Oil, and Gas, 1986-1996
(1996 Dollars)

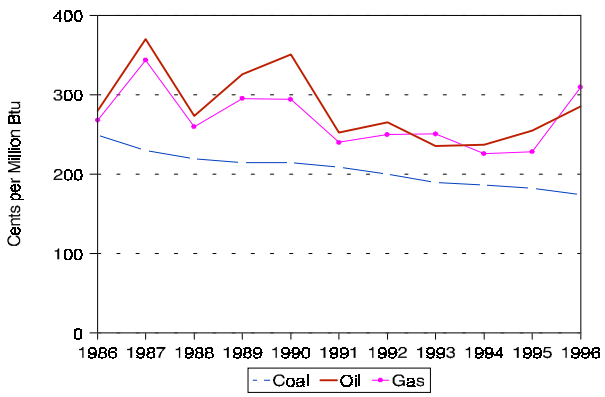


Table 7. Utility Delivered Fuel Prices for Coal, Oil, and Gas, 1986, 1991, and 1996
(Cents per Million Btu, 1996 Dollars)

Fuel	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)
Coal	249.0	208.7	173.9	-3.5
Oil	280.0	252.7	285.4	0.2
Gas	268.0	240.0	309.7	1.5

Table 8. Electric Power Industry Emissions Estimates, 1986, 1991, and 1996
(Thousand Short Tons)

Emission Type	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)
Sulfur Dioxide	573	755	667	1.5
Nitrogen Oxides[d]	259	320	365	3.5
Carbon Dioxide[d]	76,252	111,961	123,444	4.9

Figure 6. Estimated Sulfur Dioxide Emissions, 1986-1996

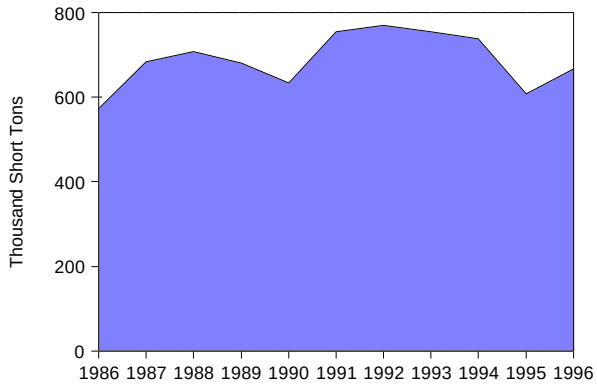


Figure 7. Estimated Nitrogen Oxide Emissions, 1986-1996

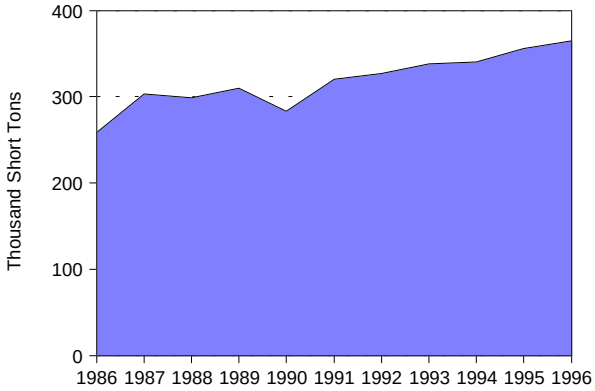


Figure 8. Estimated Carbon Dioxide Emissions, 1986-1996

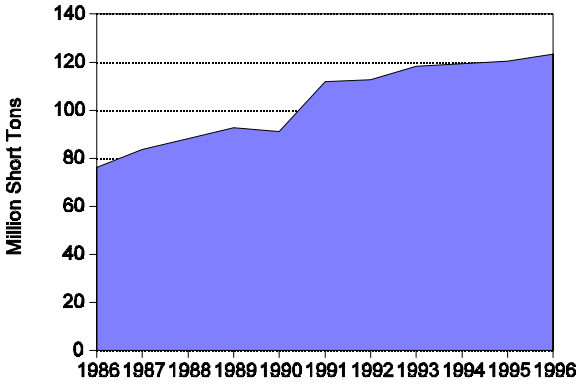


Table 9. Utility Retail Sales by Sector, 1986, 1991, and 1996
(Megawatthours)

Sector	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Residential	57,672,284	72,813,985	88,314,752	4.4	49.4	49.8	51.4
Commercial	40,317,552	52,440,505	60,988,112	4.2	34.6	35.8	35.5
Industrial	14,975,716	16,482,264	17,212,028	1.4	12.8	11.3	10.0
Other	3,709,366	4,599,487	5,317,130	3.7	3.2	3.1	3.1
Total	116,674,919	146,336,241	171,832,022	3.9	100.0	100.0	100.0

Figure 9. Nuclear Power Capacity Factor Comparison, 1986-1996

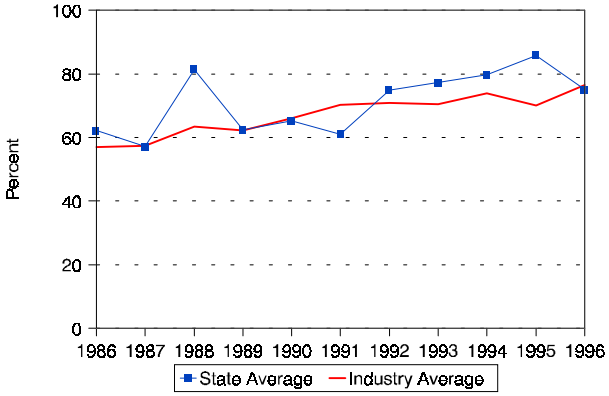


Table 10. Utility Retail Sales Statistics, 1986, 1991, and 1996

Item	Investor-Owned Utility	Public	Federal	Cooperative	Total
			1986		
Number of Utilities	6	33	--	16	55
Number of Retail Customers	4,394,124	856,325	--	515,242	5,765,691
Retail Sales (MWh)	91,849,873	18,248,682	--	6,576,364	116,674,919
Percentage of Retail Sales	78.7	15.6	--	5.6	100.0
Revenue from Retail Sales (thousand 1996 $)[e]	8,529,512	1,641,490	--	741,476	10,912,477
Percentage of Revenue	78.2	15.0	--	6.8	100.0
			1991		
Number of Utilities	5	34	--	16	55
Number of Retail Customers	5,162,770	1,008,287	--	632,342	6,803,399
Retail Sales (MWh)	114,063,971	23,378,291	--	8,893,979	146,336,241
Percentage of Retail Sales	78.0	16.0	--	6.1	100.0
Revenue from Retail Sales (thousand 1996 $)[e]	9,047,167	1,895,263	--	836,419	11,778,849
Percentage of Revenue	76.8	16.1	--	7.1	100.0
			1996		
Number of Utilities	5	33	--	16	54
Number of Retail Customers	5,702,522	1,050,198	--	719,942	7,472,662
Retail Sales (MWh)	132,578,578	27,596,798	--	11,656,646	171,832,022
Percentage of Retail Sales	77.2	16.1	--	6.8	100.0
Revenue from Retail Sales (thousand 1996 $)[e]	9,513,459	1,919,614	--	910,387	12,343,460
Percentage of Revenue	77.1	15.6	--	7.4	100.0